The Global Nuclear Energy Partnership

Program Overview/ University Programs

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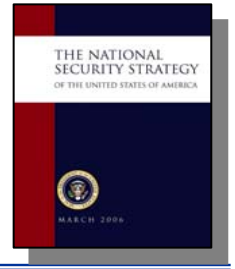
Outline

- GNEP Goals and Objectives
- GNEP Strategic Plan
- GNEP Program Management
- GNEP university participation plans
- Why and Why Now

The Global Nuclear Energy Partnership Objectives are Stated in The National Security Strategy



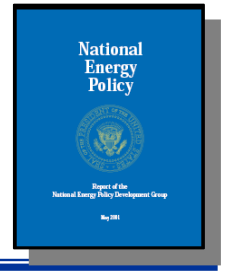
- The United States "will build the Global Nuclear Energy Partnership to work with other nations to develop and deploy advanced nuclear recycling and reactor technologies.

- This initiative will help provide reliable, emission-free energy with less of the waste burden of older technologies and without making available separated plutonium that could be used by rogue states or terrorists for nuclear weapons.

- These new technologies will make possible a dramatic expansion of safe, clean nuclear energy to help meet the growing global energy demand."

The National Security Strategy of the United States of America (March, 16, 2006): 29.

Key Elements of the U.S. Nuclear Energy Strategy Include Domestic Efforts:



- Expand nuclear power to help meet growing energy demand in an environmentally sustainable manner.

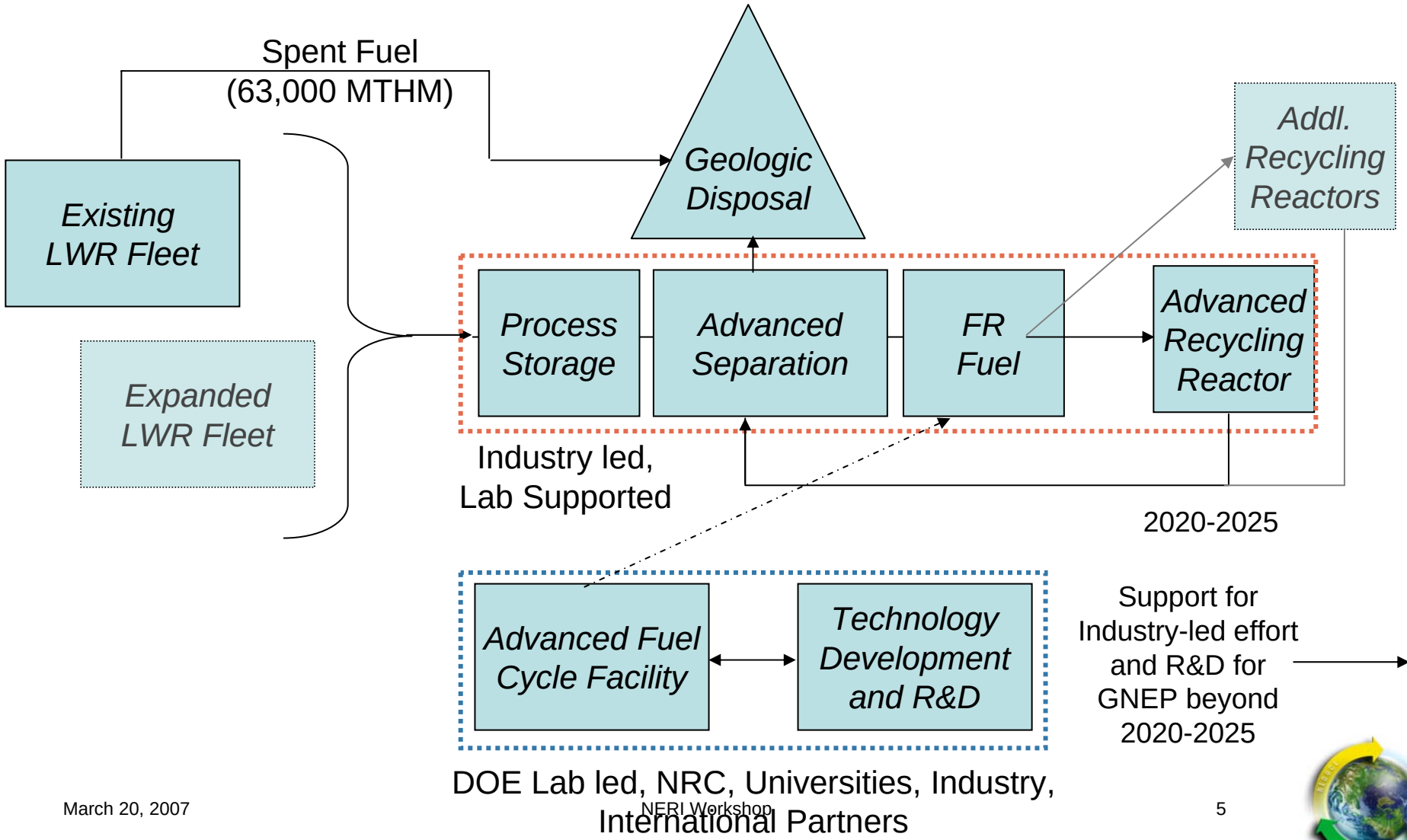
NP 2010

- Develop, demonstrate, and deploy advanced technologies for recycling spent nuclear fuel that do not separate plutonium, with the goal over time of ceasing separation of plutonium and eventually eliminating excess stocks of civilian plutonium and drawing down existing stocks of civilian spent fuel. Such advanced fuel cycle technologies will substantially reduce nuclear waste, simplify its disposition, and help to ensure the need for only one geologic repository in the United States through the end of this century.

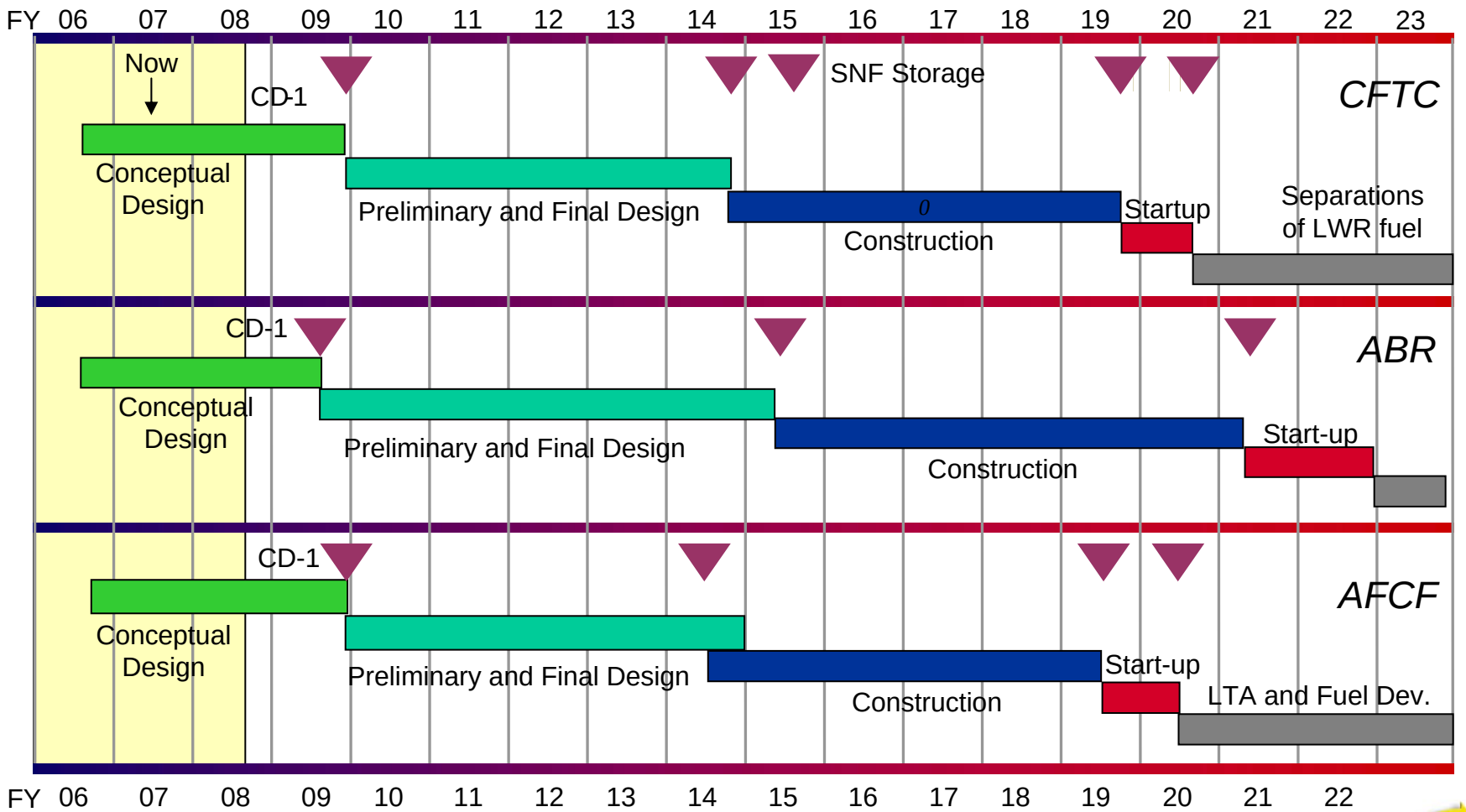
- Develop, demonstrate, and deploy advanced reactors that consume transuranic elements from recycled spent fuel.

GNEP/AFCI

Supporting the GNEP Strategy Requires New Facilities, Technology Development and R&D



Preliminary Planning Schedule



The GNEP Strategic Plan Calls for Specific Actions Supported by an Appropriate Management Structure

- Obtain input from U.S. and international industries and governments on how best to bring the needed GNEP facilities into being, what technology and policy issues must be resolved, and what business obstacles must be overcome.
- Develop a detailed GNEP technology roadmap for demonstrating solutions to the remaining technical issues in order to support commercial GNEP facilities. Inform and adjust this roadmap with input received from industry, international partners, and the policy community.
- Pursue industry participation in the development of conceptual design and other engineering studies that support both a nuclear fuel recycling center and an advanced recycling reactor.
- Prepare a programmatic GNEP Environmental Impact Statement.
- No later than June of 2008, prepare a decision package for the Secretary of Energy to proceed with a government-industry partnership to build a nuclear fuel recycling center and a prototype advanced recycling reactor

FY 2007 AFCI/GNEP University Programs – Funding Distribution

Program	Funding ($millions)
Continuation of prior year NERI awards	6.0
Delayed FY 2006 new NERI awards	2.0
New FY 2007 NERI awards	8.0
AFCI Fellowships, grants and directed R&D	2.5
UNLV	4.0
Idaho Accelerator Center	2.0
Total:	24.5

University Programs - Summary

- In FY 2007, the AFCI/GNEP University program will transition from its previously relatively small role to a significant part of the total program (>10%)
- Much of the FY 2007 program will be competitively selected to provide needed technologies and student development
- Although the final FY 2007 appropriation did not include earmarks, the UNLV and Idaho Accelerator programs will be funded
- Plans for FY 2008 include essentially all competitive awards ($48.5M of $395M Congressional Request)

GNEP – "Why" and "Why NOW"

- **There is a rapidly expanding global demand for nuclear power**
  - Without some global regime to manage this expansion many more "Iranian" situations will likely appear
- **A global regime is forming up with Russia, France, Japan and China having both the will and the means to participate.**
  - The United States, through GNEP, is leading the formation of this global regime but we do not have the means to participate in its execution.
- **Unless the United States implements the domestic aspects of the GNEP program we will suffer significant consequences in our energy security, industrial competitiveness and national security.**
- **There are potential repository benefits, but the international need for GNEP is compelling.**
- **The United States must act decisively and quickly to implement GNEP or face the real possibility of having no influence over the certain future global expansion of nuclear energy.**